

Ch 6 Notes C.ink

CH₄ Bonding

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Chemical Bond

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Chemical Bond - link b/w atoms that Results from a mutual attraction of one atom's nuclei for the other atom's e^- (and vice versa)

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Covalent

ionic

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~ Ch 6 Bonding

Chemical Bond - link b/w atoms that Results from a mutual attraction of one atom's nuclei for the other atom's e^- (and vice versa)

Covalent
forms from sharing val e^-

ionic

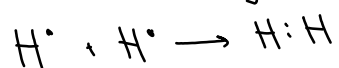
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~ Ch 6 Bonding

Chemical Bond - link b/w atoms that results from a mutual attraction of one atom's nuclei for the other atom's e^- (and vice versa)

Covalent

Arms from sharing val e^-



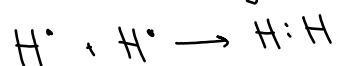
ionic

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~ Ch 6 Bonding

Chemical Bond - link b/w atoms that results from a mutual attraction of one atom's nuclei for the other atom's e^- (and vice versa)

Covalent
Arms from sharing val e^-



ionic
link b/c oppositely charged ions attract each other

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Chemical Bond - link b/w atoms that results from a mutual attraction of one atom's nuclei for the other atom's e^- (and vice versa)

Covalent
Arises from sharing val e^-
 $H^\bullet + H^\bullet \rightarrow H:H$

ionic
link b/c oppositely charged ions
attract each other
 $Na^+ + :\ddot{Cl}:^-$

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~ Ch 6 Bonding

Chemical Bond - link b/w atoms that results from a mutual attraction of one atom's nuclei for the other atom's e^- (and vice versa)

Covalent
forms from sharing val e^-
 $H^\bullet + H^\bullet \rightarrow H:H$

ionic
link b/c oppositely charged ions attract each other
 $Na^\bullet + :\ddot{Cl}: \rightarrow Na^+ + :\ddot{Cl}:^-$

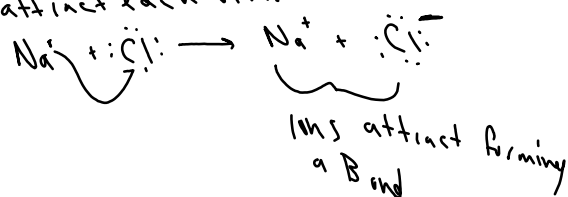
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~ Ch 6 Bonding

Chemical Bond - link b/w atoms that results from a mutual attraction of one atom's nuclei for the other atom's e^- (and vice versa)

Covalent
Forms from sharing val e^-
 $H^\bullet + H^\bullet \rightarrow H:H$

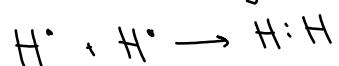
ionic
link b/c oppositely charged ions attract each other



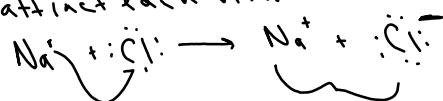
~ Ch 6 Bonding

Chemical Bond - link b/w atoms that Results from a mutual attraction of one atom's nuclei for the other atom's e^- (and vice versa)

Covalent (form b/w nonmetals)
forms from sharing val e^-



ionic
link b/w oppositely charged ions attract each other



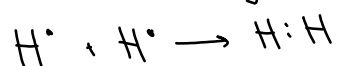
e^- transfer

ions attract forming a Bond

~ Ch 6 Bonding

Chemical Bond - link b/w atoms that Results from a mutual attraction of one atom's nuclei for the other atom's e^- (and vice versa)

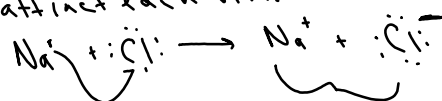
Covalent (form b/w nonmetals)
forms from sharing val e^-



ionic

(form b/w metals + nonmetals)

link b/w oppositely charged ions attract each other



e^- transfer

ions attract forming a Bond

Not every covalent bond will share e⁻ evenly

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↳ how well/evenly e⁻ shared depends on e⁻ neg
differences b/w atoms

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differences b/w atoms

<u>El⁻</u> <u>difference</u>	<u>Type of</u> <u>Pifference</u>	<u>Bond</u> <u>Type</u>	<u>Ex</u>
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Not every covalent bond will share e⁻ evenly
↳ how well/evenly e⁻ shared depends on e⁻ neg
differences b/w atoms

<u>H of difference</u>	<u>Type of Difference</u>	<u>Bond Type</u>	<u>Ex</u>
	Small difference		

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<u>H of difference</u>	<u>Type of Difference</u>	<u>Bond Type</u>	<u>Ex</u>
	Small difference		H ₂

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Not every covalent bond will share e⁻ evenly
↳ how well/evenly e⁻ shared depends on e⁻ neg
differences b/w atoms

<u>H⁺ difference</u>	<u>Type of Difference</u>	<u>Bond Type</u>	<u>Σx</u>	
	Small difference	Non Polar	H ₂	H:H ✓ same attraction for e ⁻ b/w atoms <u>even distribution</u>

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	Med diff			

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	Small difference	Non Polar	H ₂	H:H ✓ same attraction for e ⁻ b/w atoms <u>even distribution</u>
	Med diff		HCl	

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Not every covalent bond will share e⁻ evenly
 ↳ how well/evenly e⁻ shared depends on e-neg
 differences b/w atoms

<u>H_l difference</u>	<u>Type of Difference</u>	<u>Bond Type</u>	<u>Σx</u>	
	Small difference	Non Polar	H ₂	H:H ✓ same attraction for e ⁻ b/w atoms even distribution
	Med diff		HCl	H-Cl:

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Not every covalent bond will share e⁻ evenly
 ↳ how well/evenly e⁻ shared depends on e-neg
 differences b/w atoms

<u>H_l difference</u>	<u>Type of Difference</u>	<u>Bond Type</u>	<u>Σx</u>	
	Small difference	Non Polar	H ₂	H:H ✓ same attraction for e ⁻ b/w atoms even distribution
	Med diff	polar	HCl	H-Cl: ✓ Cl has a stronger pull for e ⁻ than H uneven distribution

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Not every covalent bond will share e⁻ evenly
 ↳ how well/evenly e⁻ shared depends on e⁻ neg differences b/w atoms

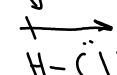
<u>H_l difference</u>	<u>Type of Difference</u>	<u>Bond Type</u>
	Small difference	Non Polar
	Med diff	polar

Ex

H₂

HCl

Dipole - 2 poles in molec
 (+) pole → H
 (-) pole → Cl



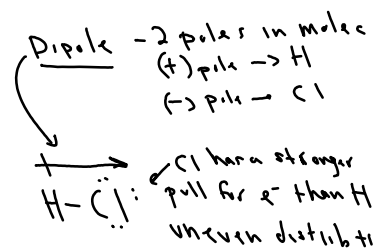
Cl has a stronger pull for e⁻ than H
 uneven distribution

e⁻ spend more time around Cl so the Cl is partially (-)

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Not every covalent bond will share e⁻ evenly
 ↳ how well/evenly e⁻ shared depends on e⁻ neg differences b/w atoms

<u>H⁺ difference</u>	<u>Type of Difference</u>	<u>Bond Type</u>	<u>Ex</u>
	Small difference	Non Polar	H ₂
	Med diff	polar	HCl
	<u>Big Diff</u>		



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Not every covalent bond will share e⁻ evenly
 ↳ how well/evenly e⁻ shared depends on e⁻ neg differences b/w atoms

<u>H⁺ difference</u>	<u>Type of Difference</u>	<u>Bond Type</u>	<u>Ex</u>	
	Small difference	Non Polar	H ₂	
	Med diff	polar	HCl	<p><u>Dipole</u> - 2 poles in molec (+) pole → H (-) pole → Cl</p> <p>→ Cl has stronger pull for e⁻ than H uneven distrib</p>
	<u>Big Diff</u>		NaCl	<p>← Cl takes b/c of Big Diff in e⁻ neg</p>

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Not every covalent bond will share e⁻ evenly
 ↳ how well/evenly e⁻ shared depends on e⁻ neg differences b/w atoms

<u>H⁺ difference</u>	<u>Type of Difference</u>	<u>Bond Type</u>	<u>Ex</u>
	Small difference	Non Polar	H ₂
	Med diff	polar	HCl
	<u>Big Diff</u>	Ionic	NaCl

Dipole - 2 poles in molec
 (+) pole → H
 (-) pole → Cl

→ Cl has stronger pull for e⁻ than H
 uneven distributi

NaCl ← Cl takes b/c of Big Diff in e⁻ neg

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Not every covalent bond will share e⁻ evenly
 ↳ how well/evenly e⁻ shared depends on e⁻ neg differences b/w atoms

<u>H_l difference</u>	<u>Type of Difference</u>	<u>Bond Type</u>	<u>Σx</u>
0.0 - 0.3	Small difference	Non Polar	H ₂
0.3 - 1.7	Med diff	polar	HCl
1.7 or ↑	<u>Big Diff</u>	Ionic	NaCl

Dipole - 2 poles in molec
 (+) pole → H
 (-) pole → Cl
 H-Cl: Cl has stronger pull for e⁻ than H
 uneven distributi
 NaCl ← Cl takes b/c of Big Diff in e⁻ neg